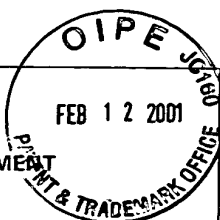


FORM 1449*

**INFORMATION DISCLOSURE STATEMENT
IN AN APPLICATION**

(Use several sheets if necessary)



Docket Number

30431.5USO1

Application Number

09/620,691

Applicant

David A. Tirrell and Yi Tang

Filing Date

July 20, 2000

Group Art Unit

1643

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS

	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION
						YES NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

as	✓	Aizawa, Y. et al., "Stability of the Dimerization Domain Effects the Cooperative DNA Binding of Short Peptides", <i>Biochemistry</i> (1999), 38, 4008-4017. (Exhibit 1)
	✓	Arndt, K. et al., "GCN4 protein, a positive transcription factor in yeast, binds general control promoters at all 5' TGA CTC 3' sequences", <i>Proc. Natl. Acad. Sci. USA</i> , (1986), 83, 8516-8520. (Exhibit 2)
	✓	Baldwin, E. et al., "Thermodynamic and Structural Compensation in "Size-switch" Core Repacking Variants of Bacteriophage T4 Lysozyme", <i>J. Mol. Biol.</i> (1996), 259: 542-559. (Exhibit 3)
	✓	Chao, H. et al., "Kinetic Study on the Formation of a de Novo Designed Heterodimeric Coiled-Coil: Use of Surface Plasmon Resonance to Monitor the Association and Dissociation of Polypeptide Chains", <i>Biochemistry</i> (1996), 35: 12175-12185. (Exhibit 4)
	✓	Chenault, H. K. et al., "Kinetic Resolution of Unsaturated and Rarely Occurring Samino Acids: Enantioselective Hydrolysis of N-Acyl Amino Acids Catalyzed by Acylase I", <i>J. Am. Chem. Soc.</i> (1989), 111, 6354-6364. (Exhibit 5)
	✓	Cornish, V. M. et al., "Probing Protein Structure and Function with an Expanded Genetic Code", <i>Angew. Chem. Int. Ed. Engl.</i> (1995), 34: 621-633. (Exhibit 6)
	✓	d'Avignon, D. A. et al., "Thermodynamic and kinetics of a folded-folded transition at Valine-9 of a GCN4-like leucine zipper", <i>Biophys. J.</i> (1999), 76: 2752-2759. (Exhibit 7)
	✓	Dahiyat, B.L. et al., "De Novo Protein Design: Fully Automated Sequence Selection" <i>Science</i> (1997), 278: 82-87. (Exhibit 8)
	✓	DeGrado, W. F. et al., "De Novo Design and Structural Characterization of Proteins and Metalloproteins", <i>Annu. Rev. Biochem.</i> (1999), 68: 779-819. (Exhibit 9)
	✓	Duewel, H. et al., "Incorporation of Trifluoromethionine into a Phage Lysozyme: Implication and a New Marker for Use in Protein 19F NMR", <i>Biochemistry</i> (1997), 36, 3404-3416. (Exhibit 10)
	✓	Ellenberger, T. E. et al., "The GCN4 Basic Region Leucine Zipper Binds DNA as a Dimer of Uninterrupted α Helices: Crystal Structure of the Protein-DNA Complex" <i>Cell</i> (1992), 71: 1223-1237. (Exhibit 11)
oo	✓	Fersht, A. R. et al., "Principles of protein stability derived from protein engineering experiments", <i>Curr. Opin. Struct. Biol.</i> (1993), 3: 75-83. (Exhibit 12)

EXAMINER

Amal Gupta

DATE CONSIDERED

5/4/01

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form for next communication to the Applicant.

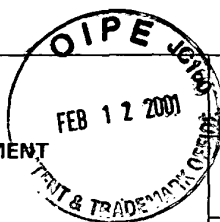
*Substitute Disclosure Statement Form (PTO-1449)

Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

FORM 1449*

**INFORMATION DISCLOSURE STATEMENT
IN AN APPLICATION**

(Use several sheets if necessary)



Docket Number

30431.5USO1

Application Number

09/620,691

Applicant

David A. Tirrell and Yi Tang

Filing Date

July 20, 2000

Group Art Unit

1643

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

ay	✓	Ghosh, A. et al. "Generalized Born Model Based on a Surface Integral Formulation" <i>J. Phys. Chem. B</i> , (1998) 102, 10983-10990. (Exhibit 13)
	✓	Giver, L. et al., "Directed evolution of a therostable esterase", <i>Proc. Natl. Acad. Sci. USA</i> (1998), 95: 12809-12813. (Exhibit 14)
		Gonzales, L. et al., "Crystal structures of a single coiled-coil peptide in two oligomeric states reveal the basis for structural polymorphism", <i>Nat. Struct. Biol.</i> (1996), 3: 1002-1100. (Exhibit 15)
		Gough, C. A. et al., "Calculations of the relative free energies of aqueous solvation of several fluorocarbons: A test of the bond potential of mean force correction" <i>J. Chem. Phys.</i> (1993), 99: 9103-9110. (Exhibit 16)
		Handel, T. M. et al., "Metal Ion-Dependent Modulation of the Dynamics of a Designed Protein", <i>Science</i> , (1993), 261: 879-885. (Exhibit 17)
		Harbury, P. B. et al., "A Switch Between Two-, Three-, and Four- Stretched Coiled Coils in GCN4 Leucine Zipper Mutants", <i>Science</i> , (1993), 262, 1401-1407. (Exhibit 18)
		Harpaz, Y. et al., "Volume changes on protein folding", <i>Structure</i> (1994), 2: 641-649. (Exhibit 19)
		Hill, C. P. et al., "The structure of granulocyte-colony-stimulating factor and its relationship to other growth factors" <i>Proc. Natl. Acad. Sci. USA</i> (1993), 90, 5167-5171. (Exhibit 20)
		Hine, J. et al., "The Intrinsic Hydrophilic Character of Organic Compounds, Correlations in Terms of Structural Contributions", <i>J. Org. Chem.</i> (1975), 40: 292-297. (Exhibit 21)
		Hockings, S. C. et al., "Characterization of the ATF/CREB site and its complex with GCN4", <i>Proc. Natl. Acad. Sci. USA</i> (1998), 95: 1410-1415. (Exhibit 22)
		Keller, P. et al., "Crystal Structure of a Bzip/dna Complex at 2.2 Å: Determinants of DNA Specific Recognition", <i>J. Mol. Biol.</i> (1995), 254: 657-667. (Exhibit 23)
		Kenar, K. T. et al., "A calorimetric characterization of the salt dependence of the stability of the GCN4 leucine zipper", <i>Protein Sci.</i> (1995), 4: 1934-1938. (Exhibit 24)
		Konig, P. et al., "The X-ray Structure of the GCN4-Bzip Bound to ATF/CREB Site DNA Shows the Complex Depends on DNA Flexibility", <i>J. Mol. Biol.</i> (1993), 233: 139-154. (Exhibit 25)
		Kono, H. et al., "Designing the hydrophobic core of <i>Thermus flavus</i> malate dehydrogenase based on side-chain packing", <i>Protein Eng.</i> (1998), 11: 47-52. (Exhibit 26)
		Kroll, D. J. et al., "A Multifunctional Prokaryotic Protein Expression System: Overproduction, Affinity Purification, and Selective Detection", <i>DNA Cell Biol</i> (1993), 12: 441-53. (Exhibit 27)
		Krylov, D. et al., "A thermodynamic scale for leucine zipper stability and dimerization specificity: e and g interhelical interactions", <i>EMBO J.</i> (1994), 13: 2849-2861. (Exhibit 28)
		Lee, B. et al., "Stability of protein structures", <i>Curr. Opin. Biotech.</i> (1997), 8: 423-426. (Exhibit 29)
		Lim, K-T. et al., "Molecular Dynamics for Very Large Systems on Massively Parallel Computers: The MPSim program", <i>J. Comp. Chem.</i> (1997), 18: 501-521. (Exhibit 30)
		Lubienski, M. J. et al., "Three-Dimensional Solution Structure and ¹³ C Assignments of Barstar Using Nuclear Magnetic Resonance Spectroscopy", <i>Biochemistry</i> (1994), 33: 8866-8877. (Exhibit 31)
		Lumb, K. J. et al., "Measurement of Interhelical Electrostatic Interactions in the GCN4 Leucine Zipper", <i>Science</i> (1995), 268: 436-438. (Exhibit 32)
ay		Matthews, B. W. "Studies on Protein Stability with T4 Lysozyme", <i>Adv. Protein Chem.</i> (1995), 46: 249-295. (Exhibit 33)

EXAMINER

DATE CONSIDERED

5/1/01

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form for next communication to the Applicant.

*Substitute Disclosure Statement Form (PTO-1449)

Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

FORM 1449*

FEB 12 2001

Docket Number

30431.5US01

Application Number

09/620,691

**INFORMATION DISCLOSURE STATEMENT
IN AN APPLICATION**

(Use several sheets if necessary)

Applicant

David A. Tirrell and Yi Tang

Filing Date

July 20, 2000

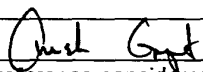
Group Art Unit

1643

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

00	Mendel, D. et al., "Probing Protein Stability with Unnatural Amino Acids", <i>Science</i> (1992), 256, 1798-1802. (Exhibit 34)
	Mer, G. et al., "Stabilization of proteins by glycosylation examined by NMR analysis of a fucosylated proteinase inhibitor", <i>Nat. Struct. Biol.</i> (1996), 3: 45-53. (Exhibit 35)
	Metallo, S. J. et al., "Distribution of labor among bZIP segments in the control of DNA affinity and specificity", <i>Chem. Biol.</i> (1994), 1: 143-151. (Exhibit 36)
	Mohanty, D. et al., "DeNovo Simulations of the Folding Thermodynamics of the GCN4 Leucine Zipper", <i>Biophys. J.</i> (1999), 77: 54-69. (Exhibit 37)
	Moitra, J. et al., "Leucine is the Most Stabilizing Aliphatic Amino Acid in the d Position of a Dimeric Leucine Zipper Coiled Coil", <i>Biochemistry</i> (1997), 36: 12567-12573. (Exhibit 38)
	Nautiyal, S. et al., "Crystal structure of a designed, thermostable, heterotrimeric coiled coil", <i>Protein Sci.</i> (1999), 8: 84-90. (Exhibit 39)
	O'Shea, E. K. et al., "X-ray Structure of the GCN4 Leucine Zipper, a Two-Stranded, Parallel Coiled Coil", <i>Science</i> (1989), 254: 538-542. (Exhibit 40)
	O'Shea, E. K. et al., "Evidence that the Leucine Zipper is a Coiled Coil", <i>Science</i> (1991), 254: 539-544. (Exhibit 41)
	Paoletta, D. N. et al., "DNA Targets for Certain Bzip Proteins Distinguished by an Intrinsic Bend", <i>Science</i> (1994), 264: 1130-1133. (Exhibit 42)
	Petka, W. A. et al., "Reversible Hydrogels from Self-Assembling Artificial Proteins", <i>Science</i> (1998), 281: 389-392. (Exhibit 43)
	Rennert, O. M. et al., "On the Incorporation of 5', 5', 5'-Trifluoroleucine into Proteins of <i>E. coli</i> ", <i>Biochemistry</i> (1963), 2: 471-476. (Exhibit 44)
	Roux, M. et al., "Fragmentation of Phospholipid Bilayers by Myelin Basic Protein", <i>Biochemistry</i> 33: 307 1994. (Exhibit 45)
	Sandberg, W. et al., "Influence of Interior Packing and Hydrophobicity on the Stability of a Protein", <i>Science</i> (1989), 245: 54-57. (Exhibit 46)
	Schneider, J. P. et al., "A Designed Buried Salt Bridge in a Heterodimeric Coiled Coil", <i>J. Am. Chem. Soc.</i> (1997), 119: 5742-5743. (Exhibit 47)
	Sharma, N. et al., "Efficient introduction of aryl bromide functionality into proteins in vivo", <i>FEBS Lett.</i> (2000), 467: 37-40. (Exhibit 48)
	Southern, E. M. "Detection of Specific Sequences among DNA Fragments Separated by Gel Electrophoresis", <i>J Mol Biol.</i> (1975), 98:503-517. (Exhibit 49)
	Tannor, D. J. et al., "Accurate First Principles Calculation of Molecular Charge Distributions and Solvation Energies from Ab initio Quantum Mechanics and Continuum Dielectric Theory", <i>J. Am. Chem. Soc.</i> , (1994), 116: 11875-11882. (Exhibit 50)
	Thompson, K. S. et al., "Thermodynamic Characterization of the Structural Stability of the Coiled-Coil Region of the Bzip Transcription Factor GCN4", <i>Biochemistry</i> (1993), 32: 5491-5496. (Exhibit 51)
	van Hest, J. C. M. et al., "Efficient introduction of alkene functionality into proteins in vivo", <i>FEBS Lett.</i> , (1998), 428: 68-70. (Exhibit 52)
00	van Hest, J. C. M. et al., "Efficient Incorporation of Unsaturated Methionine Analogs into Proteins in Vivo", <i>J. Am. Chem. Soc.</i> (2000), 122: 1282-1288. (Exhibit 53)

EXAMINER



DATE CONSIDERED

5/1/03

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form for next communication to the Applicant.

*Substitute Disclosure Statement Form (PTO-1449)

Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

INFORMATION DISCLOSURE STATEMENT IN AN APPLICATION

Docket Number

80431.5US01

Application Number

09/620,691

Applicant

David A. Tirrell and Yi Tang

Filing Date

July 20, 2000

Group Art Unit

1643

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

Wendt, H. et al., "Kinetics of Folding of Leucine Zipper Domains", *Biochemistry* (1995), 34: 4091-4107. (Exhibit 54)

Wigler, M. et al., "DNA-mediated transfer of the adenine phosphoribosyltransferase locus into mammalian cells", *Proc Natl Acad Sci USA* (1979), 76:1373-76. (Exhibit 55)

Zhang, X-J. et al., "Enhancement of Protein Stability by the combination of point mutations in T4 lysozyme is additive", *Protein Eng.* (1995), 8: 1017-1022. (Exhibit 56)

Zhang, C. et al., "Asymmetric Synthesis of (S)-5,5,5,5',5',5'-Hexafluoroleucine", *Helv. Chim. Acta* (1998), 81: 174-181. (Exhibit 57)

Zhou, Y. et al., "Building a Thermostable Membrane Protein", *J. Biol. Chem.* (2000), 275: 6975-6979. (Exhibit 58)

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form for next communication to the Applicant.

*Substitute Disclosure Statement Form (PTO-1449)

Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE